

In the Matter of)
)
Facilitating Shared Use in the 3100-3550) WT Docket No. 19-348
MHz Band)
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10-megahertz spectrum blocks on a county basis.² Southern Linc and other commenters believe that licensing the 3.45-3.55 GHz band in this manner “will better achieve the statutory, policy, economic, and other public interest considerations that the Commission must take into account in making this band available for flexible use wireless services.”³

A. The Commission Should Implement County-Based Licensing of 10-Megahertz Spectrum Blocks

As Southern Linc, NCTA/RWA, and WISPA explain in their initial comments, the Commission must “expressly account for and seek to achieve” the statutory objectives of Section 309(j) of the Communications Act of 1934 (the “Act”) in determining the appropriate licensing framework for the 3.45-3.55 GHz band.⁴ These objectives include: (i) “the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas;”⁵ (ii) “promoting economic opportunity and competition ... by avoiding excessive concentration of licenses and by disseminating licenses among a wide

² / See, e.g., Comments of Southern Communications Services, Inc. d/b/a Southern Linc, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of Southern Linc”); Comments of the Competitive Carriers Association, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of CCA”); Comments of the Wireless Internet Service Providers Association, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of WISPA”); Comments of NTCA – The Rural Broadband Association and the Rural Wireless Association, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of NTCA/RWA”); Comments of the Dynamic Spectrum Alliance, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of DSA”); Comments of New America’s Open Technology Institute and Public Knowledge, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of OTI/PK”); Comments of Federated Wireless, Inc., WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of Federated Wireless”).

³ / Comments of Southern Linc at 5. See also Comments of NCTA/RWA at 3-4 (quoting the objectives of Section 309(j) of the Communications Act and stating that the Commission “can best accomplish these objectives through a licensing scheme similar to that adopted for CBRS.”).

⁴ / Comments of NCTA/RWA at 3-4; Comments of Southern Linc at 4-5 and 7; Comments of WISPA at 3-4.

⁵ / 47 U.S.C. § 309(j)(3)(A).

variety of applicants;”⁶ and (iii) “efficient and intensive use of the electromagnetic spectrum.”⁷

The Act further mandates that the Commission “prescribe area designations and bandwidth assignments that promote (i) *an equitable distribution of licenses* and services among geographical areas, (ii) *economic opportunity for a wide variety of applicants* ... and (iii) investment in and rapid deployment of new technologies and services.”⁸ Although the Commission is often urged to look past these objectives and mandates to the potential proceeds an auction can bring in,⁹ the Act expressly states that, in prescribing its regulations for an auction, “the Commission may not base a finding of public interest, convenience, and necessity on the expectation of Federal revenues from the use of a system of competitive bidding” under Section 309(j).¹⁰

Southern Linc agrees that “auctioning spectrum in 10-megahertz blocks at the county level will successfully implement the objectives of Section 309(j)(3) and promote diversity of licensees and business cases.”¹¹ Several commenters point to the results of Auction 105 as confirmation that making licenses available in 10 megahertz blocks on a county basis will facilitate access to spectrum among a wide variety of applicants of all sizes and encourage substantial innovation and investment by a broad cross-section of users in a diverse array of technologies, services, and applications through a variety of deployment models and use cases.¹²

⁶ / 47 U.S.C. § 309(j)(3)(B) (emphasis added).

⁷ / 47 U.S.C. § 309(j)(3)(D).

⁸ / 47 U.S.C. § 309(j)(4)(C) (emphasis added).

⁹ / *See, e.g.,* Comments of 5G Americas, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of 5G Americas”) at 22.

¹⁰ / 47 U.S.C. § 309(j)(7)(A).

¹¹ / Comments of WISPA at 11.

¹² / *Id.* at 11-13; *See also* Comments of NCTA/RWA at 4.

Furthermore, as CCA observes, county-sized licenses “would increase the ability of diverse carriers and new entrants to target their spectrum acquisitions to their communities, particularly in rural communities, while still promoting efficient spectrum use in more urban areas.”¹³

Moreover, as NTCA/RWA correctly observe, awarding licenses on a county basis would “preserve the ability of new entrepreneurs and niche businesses to obtain spectrum and spur quick deployment with low capital expense in very localized areas,” while at the same time “large companies that desire larger geographic areas would have the ability to aggregate licenses that cover the areas they wish to serve.”¹⁴

By contrast, much larger Partial Economic Areas (“PEAs”) would serve only a single business model – wide-area mobile broadband – that would “favor only the largest entities.”¹⁵ The use of PEAs would effectively foreclose the vast majority of potential users and use cases from accessing or utilizing the 3.45-3.55 GHz band, including those who have already invested in PALs in the adjacent CBRS band and are seeking to serve a smaller geographic area.¹⁶ As Google points out, “license areas that are too large reduce interest by smaller entities and price them out of the band,” whereas “[s]maller license sizes for 3.45 GHz Service spectrum also could attract qualified, non-traditional auction participants like ‘[u]tilities, rural service providers, universities and others’.”¹⁷

¹³ / Comments of CCA at 6.

¹⁴ / Comments of NTCA/RWA at 6.

¹⁵ / Comments of WISPA at iv.

¹⁶ / *Id.* at 15 (stating that if the Commission adopts PEAs, “[a] wide variety of entities with plans to deploy spectrum for different use cases ... will be foreclosed from participating, with no opportunity to expand their spectrum holdings beyond the narrow confines of CBRS.”).

¹⁷ / Comments of Google LLC, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of Google”) at 5 (citations omitted). *See also* Comments of Southern Linc at 6-7.

Some commenters contend that “adding licenses over different geographic areas such as counties to existing networks that are designed based on PEAs will add unnecessary complexity and costs to network design, buildout, and management.”¹⁸ However, this ignores the fact that networks are already being designed and deployed based on counties in the adjacent CBRS band. Many of these same commenters were in fact themselves winning bidders on several county-sized PALs in the CBRS band, and thus clearly were not dissuaded by the “complexity” of adding these licenses to their systems.¹⁹ Arguments for PEA-sized licenses further ignore that, as noted above, those seeking to cover larger geographic areas can still do so by combining licenses for multiple counties. As NCTA/RWA point out, “[c]ounties ‘nest’ into larger geographic areas” – such as PEAs – “and operators would have the ability to secure licenses that correspond to their current footprints.”²⁰

The adoption of an appropriately-sized spectrum block, like the adoption of an appropriate geographic area, also plays a significant role in furthering the objectives of Section 309(j)(3) of the Act. Southern Linc and other commenters therefore urge the Commission to license the 3.45-3.55 GHz band in 10-megahertz blocks.²¹ Unlike the 280 megahertz that will be available for licensing in the 3.7 GHz band, only 100 MHz will be available in the 3.45-3.55 GHz band. Southern Linc agrees with CCA that, “[w]ith only 100 megahertz of spectrum available, adopting 10-megahertz blocks will create more licenses for all interested bidders,

¹⁸ / See, e.g., Comments of T-Mobile USA, Inc., WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of T-Mobile”) at 26.

¹⁹ / See Public Notice, “Wireless Telecommunications Bureau Announces that Applications for Auction 105 Licenses are Accepted for Filing,” DA 20-1445 (rel. Dec. 3, 2020) at Attachment A, p. 5.

²⁰ / Comments of NCTA/RWA at 6.

²¹ / See Comments of CCA at 5; Comments of WISPA at 16-17; Comments of T-Mobile at 21-22; Comments of DSA at 5-6; Comments of Federated Wireless at 19.

including small and rural carriers, and will help ensure that carriers of all sizes are able to access spectrum and put it to use in ways tailored to the needs of their communities.”²² T-Mobile also recognizes the value of, and supports, licensing the band in 10-megahertz blocks, stating that this “will facilitate greater competition and provide multiple carriers the flexibility they need to obtain different size bandwidths to integrate the spectrum into their networks.”²³ In addition, as T-Mobile further points out, “a 10-megahertz block size will make the channel size throughout the 3.45-3.7 GHz band consistent.”²⁴

For these reasons, the Commission should implement county-based licensing of 10-megahertz blocks for the 3.45-3.55 GHz band, which would most effectively balance all of the objectives of Section 309(j) of the Act.²⁵

B. The Commission Should Adopt a Pre-Auction Aggregation Limit

Southern Linc, CCA, and NCTA agree that the Commission “should adopt an aggregation limit under which no bidder can acquire more than 40 MHz of spectrum in the band in a particular geographic area.”²⁶ According to CCA, “[t]his reasonable limit would invite

²² / Comments of CCA at 5.

²³ / Comments of T-Mobile at 21. *See also* Comments of CCA at 5 (stating that with 10-megahertz license blocks, “interested parties will still have the opportunity to acquire 20 megahertz or more of this spectrum if they so choose.”)

²⁴ / Comments of T-Mobile at 22. Moreover, as Southern Linc noted in its initial comments, 10 megahertz – like 20 megahertz – is “among the 13 channel bandwidths 3GPP has specified for 5G deployments” for carrier frequencies below 6 GHz. Comments of Southern Linc at note 6 (*citing FNPRM* at ¶ 54 and note 112).

²⁵ / 47 U.S.C. § 309(j); *FNPRM* at ¶ 96.

²⁶ / Comments of CCA at 5; *See also* Comments of Southern Linc at 8; Comments of NCTA – The Internet & Television Association, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of NCTA”) at 22-25. T-Mobile states that if a spectrum screen is adopted for this band, “the Commission should articulate before the auction any limits on the amount of spectrum that a bidder can win, rather than use a post-auction case-by-case review.” Comments of T-Mobile at 24-25.

greater participation in the auction by ensuring at least three licensees in a market, and deter anticompetitive spectrum aggregation.” The adoption of an aggregation limit for this band would thus be consistent with the stated objective of Section 309(j) to “promot[e] economic opportunity and competition ... by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants[.]”²⁷ Southern Linc agrees with CCA that aggregation limits “are particularly important as the Commission begins to auction licenses for mid-band 5G spectrum because the distribution of this spectrum among licensees will play a significant role in shaping the next several decades” of competition.²⁸

C. The Commission Should Permit Opportunistic Use When and Where a Licensee is Not Operating

Southern Linc agrees with other commenters that the Commission should permit opportunistic use of the 3.45-3.55 GHz band, which “would enable the licensed portion of the band to be used when and where the licensee is not operating.”²⁹ As DSA explains, a “use-it-or-share-it” rule “expands productive use of spectrum without risk of harmful interference and without undermining the deployment plans of primary licensees.”³⁰ In particular, a “use-it-or-share-it” rule would allow smaller and rural service providers and private network operators to make use of fallow spectrum until a licensee actually makes use of it, thus furthering the

²⁷ / 47 U.S.C. § 309(j)(3)(B); *See also* Comments of CCA at 5-6; Comments of NCTA at 22.

²⁸ / Comments of CCA at 6.

²⁹ / Comments of WISPA at 22. *See also* Comments of NCTA/RWA at 8; Comments of DSA at 6; Comments of OTI/PK at 15-18; Comments of Charter Communications, Inc. and Cox Communications, Inc., WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of Charter and Cox”) at 4-5.

³⁰ / Comments of DSA at 6. *See also* Comments of OTI/PK at 16 (stating that such a rule would “encourage[] licensees to sublease spectrum they are not using in order to derive revenue from spectrum WISPs or other entities would otherwise access for free,” thus “reduc[ing] spectrum warehousing and increas[ing] access for operators that are ready to deploy, but who lack spectrum access in a local area.”).

objectives of Section 309(j) for “the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas” and “efficient and intensive use of the electromagnetic spectrum.”³¹

Google states that “[e]xpanding SAS capabilities below the 3.55 GHz boundary” to support opportunistic use “would be straightforward.”³² According to Google, “Protecting licensees’ systems when and where they are operating ... is analogous to the implementation of PAL Protection Areas (PPAs)” and “[t]here is effectively no challenge to using SASs to implement a use-it-or-share framework in the 3.45 GHz Service that has not already been solved, certified, and successfully deployed in CBRS.”³³

D. The Commission Should Adopt the CBRS Performance Requirements for IoT Deployments

In its initial comments, Southern Linc expressed its support of the Commission’s proposal to adopt alternative Internet of Things (“IoT”) performance requirements “to allow for flexibility to provide services potentially less suited to a population coverage metric.”³⁴ However, Southern Linc agrees with the concerns expressed by API/ENTELEC that the geographic area coverage benchmarks proposed in the *FNPRM* – *i.e.*, coverage of 35% of the license area within eight years and 65% of the license area within 12 years – are too high and that it may be impractical and cost-prohibitive to build out an IoT network to these coverage

³¹ / 47 U.S.C. § 309(j)(3)(A) and (D).

³² / Comments of Google at 10.

³³ / *Id.*

³⁴ / Comments of Southern Linc at 8 (*quoting FNPRM* at ¶ 102).

levels in many areas.³⁵ Southern Linc is also concerned that the *FNPRM* presents these coverage percentages as bright-line minimums rather than as a “safe harbor” and does not provide any option for a licensee to alternatively demonstrate on an individualized, case-by-case basis that its use of the spectrum is in the public interest.³⁶

Southern Linc therefore urges the Commission to adopt alternate IoT performance requirements that are the same as or substantially similar to the performance requirements that were adopted for the CBRS band.³⁷ Specifically, Southern Linc recommends that, as it did for CBRS, the Commission adopt a performance requirement for IoT services and deployments that requires a showing of substantial service either (i) through the satisfaction of a safe harbor (such as a minimum percentage of coverage or of fixed links deployed), or (ii) through an individualized showing “to demonstrate that they provide a bona fide communications service, either for unaffiliated customers or for private, internal use, that meets the standard of substantial service.”³⁸ This alternative performance requirement for IoT services and deployments appropriately recognizes that potential users of the 3.45-3.55 GHz band will include critical infrastructure and other industrial and enterprise entities who will be deploying private wireless networks to meet their specific operational needs rather than to cover a certain number of people

³⁵ / Comments of the American Petroleum Institute and the Energy Telecommunications and Electrical Association, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of API/ENTELEC”) at 3.

³⁶ / See *FNPRM* at ¶ 102.

³⁷ / Promoting Investment in the 3550-3700 MHz Band, GN Docket No. 17-258, Report and Order, 33 FCC Rcd 10598, 10630-39 (2018) (“*2018 CBRS Order*”) ¶¶ 57-74; 47 C.F.R. § 96.25(4).

³⁸ / *2018 CBRS Order*, 33 FCC Rcd at 10637 ¶ 69.

with their signal, and that the typical percentage-based performance metrics may not be suitable for such deployments.³⁹

II. THE TECHNICAL RULES FOR THE 3.45-3.55 GHZ BAND SHOULD ENSURE PROTECTION OF ADJACENT CBRS OPERATIONS

Although Southern Linc believes that the licensing and operational framework for the 3.45-3.55 GHz band should generally align with the framework adopted for the adjacent CBRS band, Southern Linc recommends that the Commission consider technical rules that would allow for power levels in the 3.45-3.55 GHz band that are higher than those currently allowed in the CBRS band, provided that adjacent CBRS operations are protected. Higher power levels would enable licensees to provide greater coverage with fewer sites, providing flexibility in network planning and deployment while reducing deployment costs.⁴⁰ In addition to lower costs, the need to deploy fewer sites also enables licensees to better manage the logistics involved with siting. Specifically, Southern Linc recommends that the Commission consider power limits for 3.45-3.55 GHz operations ranging from an EIRP limit of 62 dBm/10 MHz (as AT&T has proposed for the CBRS band)⁴¹ to potentially “full power” operations equivalent to the power levels adopted for the 3.7 GHz band,⁴² as long as the Commission can also ensure that adjacent CBRS operations will be protected.⁴³

³⁹ / *Id.*

⁴⁰ / *See* Comments of Federated Wireless at 16-17 (“Such increased transmit power should greatly reduce deployment costs, particularly in rural and under-served areas.”).

⁴¹ / *See, e.g.,* Letter from Stacey Black, AT&T, to Marlene H. Dortch, Federal Communications Commission, GN Docket Nos. 17-258 and 12-354 (filed May 16, 2019). *See also* Comments of Federated Wireless at 16-17.

⁴² / *See FNPRM* at ¶¶ 73-74.

⁴³ / *See* Comments of CCA at 7 (“[T]he Commission’s technical rules should promote full-power 5G terrestrial mobile services while preserving coexistence with CBRS operations.”).

Southern Linc believes that the necessary protections for CBRS operations can be achieved through the adoption of appropriate OOB limits. In particular, Southern Linc supports the Commission's proposal to adopt an OOB limit of -13 dBm/MHz at the authorized channel edge, along with the additional two-step limits that would apply beyond the upper and lower band edges.⁴⁴ Although some commenters urge the Commission to adopt a single OOB limit across the entire band as in the 3.7 GHz band, there is already a well-recognized issue of interference between 3.7 GHz and CBRS operations.⁴⁵ Southern Linc sees no reason – and no justifiable rationale – for the same problem to be imported to the other end of the CBRS band, particularly when it can be addressed by such an incremental measure as a two-step OOB limit beyond the band edges. To the extent the Commission's proposed OOB limits may nevertheless be considered too strict, Southern Linc believes that the two-step approach proposed by Nokia as its “preferred” OOB framework would be a viable alternative.⁴⁶

⁴⁴ / *FNPRM* at ¶ 78.

⁴⁵ / *See* Comments of T-Mobile at 29-30; Comments of AT&T Services, Inc., WT Docket No. 19-348 (filed Nov. 20, 2020) at 5-6; Comments of CTIA, WT Docket No. 19-348 (filed Nov. 20, 2020) at 14-16; Comments of Ericsson, WT Docket No. 19-348 (filed Nov. 20, 2020) at 12-13.

⁴⁶ / Comments of Nokia, WT Docket No. 19-348 (filed Nov. 20, 2020) (“Comments of Nokia”) at 9-10.

III. CONCLUSION

For the reasons set forth above, Southern Linc urges the Commission look to and build on its success with CBRS and adopt licensing and operating rules for the 3.45-3.55 GHz band that align with those in the adjacent CBRS band, together with technical rules that will promote flexibility and efficiency while ensuring coexistence with adjacent CBRS operations.

Respectfully submitted,

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